

*latifolia*. There is no means of knowing which was actually published first; and as there is an error in Lamarck's citation of synonyms and some vagueness in his description of the cup of the fruit, it seems best to take up Marshall's name as his description clearly refers to the common Red Oak.

If my idea that *Quercus borealis* and *Quercus rubra* of modern authors are varieties of one species, to be distinguished as such, is correct, the name of the species is *Quercus borealis* Michaux fils and the name and synonymy of the variety is as follows:

QUERCUS BOREALIS, var. **maxima**, nov. comb.

*Quercus rubra*,  $\beta$  Linnaeus, *Spec.*, 996 (1753).

*Quercus rubra* Du Roi, Harbk. Baumz. ii. 265 (excl. syn. Linnaeus & Catesby, not Linnaeus, t. 5, f. 2 [1772]) and all later authors.

*Quercus rubra maxima* Marshall, *Arbust. Am.* 122 (1785).

*Quercus rubra*,  $\alpha$  *latifolia* Lamarck, *Encycl. Meth.* i. 721 (excl. syn. Plukenet) (1785).

ARNOLD ARBORETUM.

## STAMINODY OF THE PETALS IN AMELANCHIER.

C. A. WEATHERBY.

LAST spring I saw, for the first time in the field, the little shad-bush with reduced petals which has been called *Amelanchier oblongifolia*, var. *micropetala* by Dr. Robinson,<sup>1</sup> *A. nantucketense* by Mr. Bicknell,<sup>2</sup> and a hybrid of *A. oblongifolia* and *A. stolonifera* by Prof. Wiegand.<sup>3</sup> Since this was my first sight of it, I examined it with more than usual care and presently noticed that, in many of the tiny petals, the margins were inrolled and of a yellowish hue for a certain distance on each side. Subsequent examination of the inrolled portion showed it to be thinner than the rest of the petal and of a different cell-structure; and, in the latter respect as well as in color, to be precisely similar to the walls of the anther. Moreover, it contained more or less granular matter

<sup>1</sup> *Rhodora* x. 33.

<sup>2</sup> *Bull. Torr. Bot. Club* xxxviii. 453.

<sup>3</sup> *Rhodora* xiv. 133.

which, under the microscope, proved to be indistinguishable in appearance from pollen-grains.

I have since examined the readily available herbarium material of the small petaled plant — about a dozen sheets in all, from Blue Hill in Milton, Mass., from Nantucket and from various localities in Connecticut. Every one shows the same condition to a greater or less extent. I have not seen the actual specimens from which Mr. Bicknell described *A. nantucketense*, but the fact that he speaks of the petals as “often involute”<sup>1</sup> indicates that it is not unlike the rest. The degree to which modification of the petals has progressed varies in different individuals and in different flowers on the same shrub — even in the same flower. Some are oblanceolate to obovate and show only an inrolling of parts of the margin; others possess more fully-formed anther-sacs and have a narrow claw and a short, sub-orbicular blade, suggestive of filament and anther in outline, but petaloid in texture; in still others, the lower part of the claw has the heavier texture of true filaments; and in a few, the whole has the texture of the true stamens and can be distinguished from them only by the broader and flatter filament, the longer anther-sacs and the broad connective, corresponding to the blade of the petal.

Such a series of structures could, of course, be produced in the comparatively common phenomenon of “doubling” — the transformation of stamens into petals. But in that case one would expect to find the usual number of normal petals in addition to the partially developed ones, and a reduction in the number of stamens corresponding to the number of the latter. No such condition appears. Whether modified or not, the petals are five and no more; and the number of stamens, though variable, as usually in *Amelanchier*, averages about the same as in normal flowers. It seems plain, then, that we have here a case of transformation of petals into stamens, and that to this teratological tendency is due the dwarfing of the petals in this puzzling plant. What the underlying cause of the tendency may be, I cannot now suggest. This note is published in the hope that others may be moved to make observations of the plant in the field, to see if any evidence of disease or other external cause can be found. I noticed none in my one meeting with the growing plant; but I was not then looking for it.

EAST HARTFORD, CONN.